

## Symbols, Formulas and Equations

Use your periodic table to answer the questions below.

### Part I: Chemical Symbols and Formulas

1. Name the element represented by each symbol below:

a. P

e. Br

b. Ni

f. K

c. Cu

g. Na

d. Co

h. Fe

2. Which elements in Question 1 have symbols corresponding to their English names?

3. Which is more likely to be the same throughout the world - the element's symbol or its name? Why?

4. For each formula, list the elements present and give the number of atoms of each element.

a.  $H_2O_2$  (hydrogen peroxide)

f.  $NH_3$  (ammonia)

b.  $CaCl_2$  (calcium chloride)

g. NaCl (table salt)

c.  $NaHCO_3$  (Sodium hydrogen carbonate)

h.  $C_3H_8$  (propane)

d.  $H_2SO_4$  (sulfuric acid)

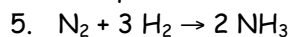
i.  $CH_4$  (methane)

e. CO (carbon monoxide)

j.  $C_6H_{12}O_6$  (glucose)

### Part II: Chemical Equations

Answer the questions about each chemical equation.



a. What are the reactants?

f. How many Hydrogen atoms are present after the reaction?

b. What are the products?

g. What compound is produced when Nitrogen and Hydrogen react?

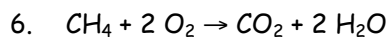
c. How many Nitrogen atoms are present before the reaction?

d. How many Nitrogen atoms are present after the reaction?

h. Below is a visual representation of the first part of this chemical equation. Draw in the products.


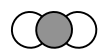
e. How many Hydrogen atoms are present before the reaction?

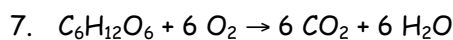




- What are the reactants?
- What are the products?
- How many Carbon atoms are present before the reaction?
- How many Carbon atoms are present after the reaction?
- How many Hydrogen atoms are present before the reaction?
- How many Hydrogen atoms are present after the reaction?

- How many Oxygen atoms are present before the reaction?
- How many Oxygen atoms are present after the reaction?
- What compounds are produced when Methane and Oxygen react?

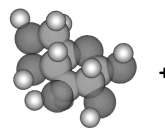
- j. Draw a visual model of this chemical reaction in the space below. Use  for methane and  for carbon dioxide.



- What are the reactants?
- What are the products?
- How many Carbon atoms are present before the reaction?
- How many Carbon atoms are present after the reaction?
- How many Hydrogen atoms are present before the reaction?
- How many Hydrogen atoms are present after the reaction?

- How many Oxygen atoms are present before the reaction?
- How many Oxygen atoms are present after the reaction?
- What compounds are produced when glucose and Oxygen react?

- j. Finish the visual model of this chemical reaction in the space below. The glucose molecule has been drawn in for you.



8. State the Law of Conservation of Matter in your own words.

9. "Balance" the following equations using the Law of Conservation of Matter.

